

# Research (and Enterprise) in Language

## A view from linguistics

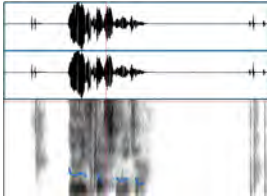
David Adger

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CREL Launch 2019

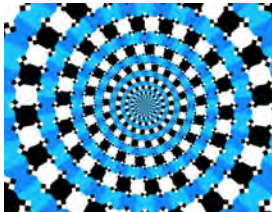
# What is (Human) Language?

Soundwaves?



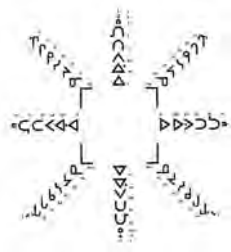
language as what we say and hear

Mental Structures?



how human minds create language and understand it

A Cultural Object?



what language gives us the power to do

# Language is communication, right?



# Communication without language

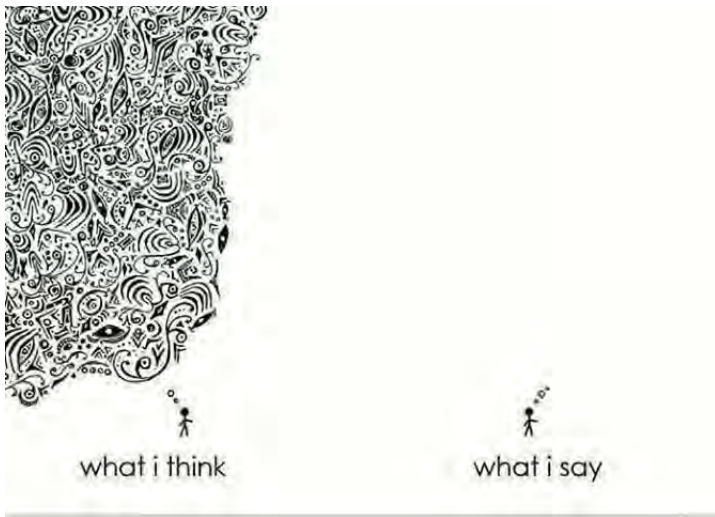
## Hmmm



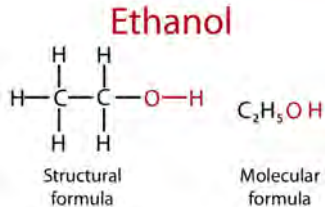
# Communication without language in other animals



# Language without communication in humans



What something is used for, is not what it is!



# So What Properties does Human Language have?

## **Unlimited and Creative**

A task for you: get out your phones, and make up a sentence in your heads. Something reasonably long. Now open up a search engine, and type in your sentence in inverted commas.



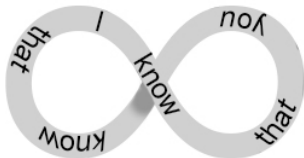
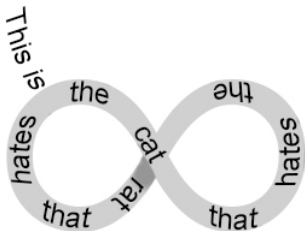
# So What Properties does Human Language have? **Systematically Meaningful**



The cat bit the woman **or** The woman bit the cat?

# How does Human Language do this?

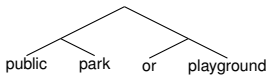
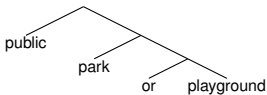
## Recursion in the rules gives infinity



# The hidden structure of human language



Park Zone Drug Violation  
"shall not engage in drug selling activities within 50 yards of a public park or playground"



## Does any animal have such a system?

Honeybee Dancing

Campbell  
Calls

Monkey

Zebra Finch Songs



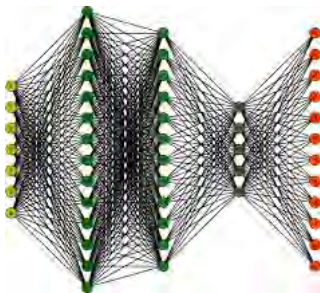
Infinite and meaningful, but not creative

systematically meaningful but not creative or infinite

infinite and creative, but not systematically meaningful

What makes human psychology and neurology so different from other species?

## Do computers have such a system?



(Recurrent) Neural Networks: Learn differently from humans;  
make different mistakes than humans

Can we improve language technologies by melding linguistic  
understanding and AI?

# Language Birth in London



Trouble!

# Unconscious Grammatical Patterns Emerge

A chav is, like, someone that wears like big gold chains.

I'm the only one who's gone to college.

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I'm the only one **who's** gone to college.



## Kids unconsciously reorganize English grammar

...my medium brother **who** moved to Antigua  
cos he's got a spinal disorder  
so he grows kinda slow  
so he is kinda short.  
people were swinging him about in my area.  
I thought "what?" .  
now I lived near him then in north one.  
I still had my house in east london  
cos that's where I've lived born and raised  
like I had a house in east London  
where my nan lives

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5/10

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people **that** were on the bus were all different types of people  
so therefore all different types of families got affected by the  
same thing

so natural and national disasters that happen in Britain  
everyone feels it

and sometimes I think like religiously speaking  
sometimes I think .

like them things . should happen

but there is still a benefit from like disasters

because people do come together

and we realise that people do get affected

so yeah . so I'm definitely a Londoner

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# A new rule in Multicultural London English

Continuing Topic Grammar: Jamaican Creole, Igbo, Yoruba, Korean, Somali, ...

Use **who** to start a relative clause when the noun is an ongoing topic in the discussion.

# A Language is Born!

New Sounds  
New Ways of Using Words  
New Rules of Grammar  
New Challenges



## Access and linguistic Bias



School, University, Workplace

Meeting these challenges involves educating influencers about what Multiethnolects are, and providing teachers and students with resources to help them live multilingual lives.



# London: a laboratory for language research

